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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,421	01/20/2004	Chikuni Kawakami	0879-0425P	8089

2292 7590 05/01/2007
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EXAMINER	
SUTHAR, RISHI S	
ART UNIT	PAPER NUMBER
2851	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	05/01/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 05/01/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/759,421	KAWAKAMI, CHIKUNI	
	Examiner	Art Unit	
	Rishi Suthar	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23 and 25* is/are pending in the application.

4a) Of the above claim(s) *13-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,21-23 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20070309*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 January 2007 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (4,914,731).

Chen teaches in Figs. 3 and 7 a lighting apparatus comprising a reflecting surface (53) formed on a circuit board; an LED light source (51) mounted on a part of the reflecting surface; and a reflector (40) being formed independently from the reflecting surface and provided above the reflecting surface so as to surround said LED light source, and said reflector having an opened rear thereof closed by said reflecting

surface when mounted on said circuit board (Fig. 7); an optical component (30) for expanding and flooding the light; and wherein the reflector protrudes from said circuit board when mounted on said circuit board.

4. Claims 6, 10 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu (6,481,130).

Wu teaches in Figs. 1A and 1B a lighting apparatus comprising: a circuit board (22); an LED (24) light source mounted on said circuit board; and a reflector (32), having a substantially rectangular shape, for reflecting ahead the light from said LED source, being mounted directly on said circuit board, and having an internal reflecting surface (38) that surrounds the rear and side surface sides of the light source (see Fig. 1B); the LED has a lead terminal, said lead terminal put through a hole provided on the reflector and is jointed with a predetermined pad of the circuit board; said circuit board defines a mounting hole, said reflector having a claw (35) engaging with the mounting hole.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (4,914,731) in view of Koay et al. (US 2002/0047130).

Chen teaches the invention as claimed above, but does not teach that the reflecting surface on the circuit board is formed by gold plating. Koay et al. teaches that gold plating on circuit boards is a conventional method in light sources (Koay et al; paragraph [0011]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the reflector of Chen by gold plating as is conventional for improving the light reflection properties.

7. Claims 3, 4, 11 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (4,914,731) in view of Kitano et al. (US 2003/0216151).

Regarding claim 3, Chen teaches the invention as claimed above, but does not expressly disclose the LED is a surface mounted white LED. Kitano et al. teaches a LED light source which can use a white colored chip LED as the light source (Par. [0047], lines 2-4). It would be obvious to one of ordinary skill in the art at the time of applicant's invention to modify the light source of Chen to use a white colored surface-mounted chip LED as taught by Kitano et al. since it is conventional to use white surface mounted LEDs in lighting devices.

Regarding claim 4, Chen teaches the invention as claimed above but does not expressly disclose red, green and blue LED light sources. Kitano et al. teaches an LED light source where the LED light source is comprised of three types of LED light sources for emitting red light (22a), green light (23a), and blue light (24a), and the LED light

source for emitting the light in each color is radially placed as shown in Fig. 3. It would be obvious to one of ordinary skill in the art at the time of applicant's invention to modify the light source of Chen to use an RGB LED light source as taught by Kitano et al. so as to use the light source in order to provide a multi-color LED lighting display in a smaller space (Kitano et al., paragraph [0015]).

Regarding claim 11 and 12, Chen teaches the lighting apparatus as claimed above but does not teach an electronic flash apparatus of a camera or a camera comprising the lighting apparatus. Kitano et al. teaches an electronic flash of a camera and a camera using an LED light source. It would be obvious to one of ordinary skill in the art at the time of applicant's invention to use the light source of Chen in the electronic flash apparatus and camera of Kitano et al. since the light source of Chen provides a wide viewing angle and thus would be suitable for an electronic flash apparatus of a camera (Kitano et al., paragraph [0016]).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,481,130) in view of Kitano et al. (US 2003/0216151).

Wu teaches the invention as claimed above, but does not teach three LED sources for emitting red, green and blue light. Kitano et al. teaches an LED light source where the LED light source is comprised of three types of LED light sources for emitting red light (22a), green light (23a), and blue light (24a), and the LED light source for emitting the light in each color is radially placed as shown in Fig. 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a

multi-color LED arrangement as taught by Kitano et al. in the LED light source of Wu in order to provide a white light which is suitable for flash photography.

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,481,130) in view of Sommers (US 2003/0180037).

Wu teaches the lighting apparatus as claimed above, but does not teach an electronic flash apparatus of a camera or a camera comprising the lighting apparatus. Sommers teaches an electronic flash apparatus (4) of a camera and a camera (1) which uses an LED flash apparatus in Fig. 1 (Par. [0020]). It would be obvious to one of ordinary skill in the art at the time the invention was made to use the lighting apparatus of Wu in the electronic flash apparatus of a camera of Sommers since the lighting apparatus of Wu improves the efficiency of the device by maximizing the light outputted and would thus decrease the amount of power needed.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (4,914,731) in view of Wu (6,481,130).

Chen teaches the invention as claimed above, but does not expressly disclose said circuit board defines a mounting hole and the reflector is provided with a claw extending directly from the reflector to engage the mounting hole. Wu teaches in Fig. 1B a claw (35) extending from a reflector and engaging a hole in the circuit board. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide claws to engage a hole in the circuit board in the invention of Chen as taught

by Wu in order to provide a secure connection and proper alignment between the two components.

Response to Arguments

11. Applicant's arguments with respect to claims 1 and 6 have been considered but are moot in view of the new ground(s) of rejection.

Telephone Numbers

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rishi Suthar whose telephone number is 571-272-8456. The examiner can normally be reached on M-F 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rishi Suthar
Examiner
Art Unit 2851

William Perkey
Primary Examiner

RS
April 23, 2007